







Course Description Form

1. Course Name:

Deciduous Fruit 2

2. Course Code

DEFR 309

3. Semester / Year:

Second Semester/three stage/ 2024-2025

4. Description Preparation Date:

1/2/2025

5. Available Attendance Forms:

In-person + Online

6. Number of Credit Hours (Total) / Number of Units (Total)

2 Theoretical + 3 Practical / 3.5

7. Course administrator's name (mention all, if more than one name)

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8. Course Objectives

Theoretical:

- 1. Introducing students to the most important types of deciduous fruits that can be successfully cultivated in Iraq.
- 2. Study the most important environmental requirements necessary for the successful cultivation of some types of deciduous fruits.
- 3. Enabling students to understand the most important horticultural operations that must be carried out in the orchards of some types of deciduous fruits.
- 4. Teaching students about the most important methods of propagation of some types of deciduous fruits and their most important origins.

Practical:

- 1- Introducing students to the importance of deciduous fruit trees through their economic importance and botanical description, in addition to the most important foundations for dividing and classifying fruits.
- 2- Study the most important factors affecting the growth and production of deciduous fruits.
- 3- Enabling the student to propagate some types of deciduous fruits by sexual or vegetative propagation methods.
- 4- Enabling students to carry out training and pruning operations for some deciduous fruit trees.

5. Introducing students to the most important types of each type of fruit studied.

5- Teaching students the scientific foundations of establishing deciduous fruit orchards, in addition to how to perform some service operations such as irrigation, fertilization, training, thinning, pruning, and harvesting.

9. Teaching and Learning Strategies

Theoretical

- 1- Live lectures with students.
- 2- PowerPoint slides.
- 3- Introduction pictures.
- 4- Audio recordings.
- 5- Dialogues and discussion.
- 6- Assigning tasks and reports

Practical:

- 1- Live lectures with students.
- 2- PowerPoint slides.
- 3- Scientific visits to fruit prenaviely
- 4- Applying some practical in nursery facilities?
- 5- Dialogues and discussions with furtents.
- 6- Assigning tasks and reports

10. Course Structure

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Week	Hours	Required	Unit or subject	Learning	Evaluation			
		Learning	name	method	method			
		Outcomes						
1	2 Theoretical	theoretical:	theoretical:	Theoretical:	Short exams,			
	3 practical	The student masters	Peaches: scientific	Live	assignments,			
		the scientific name of	name, distribution,	lectures,	discussions			
		peaches and learns	economic	PowerPoint				
		the most important	importance,	slides,				
		characteristics of	botanical	introductory				
		peach trees, the	description,	images,				
		appropriate	climate, soil,	direct				
		environment, the	propagation,	dialogues				
		most important	methods for	and				
		principles, and	establishing a	discussion				
		methods of growing	peach orchard,	practical:				
		transplants in the	planting seedlings	Assigning				
		orchard.	in the orchard.	practical				
		practical:	practical:	tasks and				
		The student masters	Propagation by	reports				
		the methods of	cuttings, types of					
		vegetative	stem cuttings,					
		propagation of	stages of					
		deciduous fruit trees	emergence of					
			adventitious roots					
			on cuttings, factors					
			affecting the					
			emergence of roots					
2	0 FB1	TOTAL CONTRACTOR OF THE PARTY O	from cuttings	Trui : 1	G1			
2	2 Theoretical	Theoretical	theoretical:	Theoretical:	Short exams,			
	3 practical	The student masters	Peaches: pruning	Live	assignments,			
		the nature of fruit	and trainning,	lectures,	discussions			
		bearing and all	irrigation,	PowerPoint				
		horticultural service	fertilization,	slides,				
		operations for peach	flowering and	introductory	Wes.			
		orchards.	pollination, the	images,	of charles			
		practical:	nature of fruit	direct	مامعة الموالغابات			
			bearing, fruit	dialogues				

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		The student masters the method of preparing cuttings for deciduous fruits.	thinning, harvesting, indications of fruit maturity, varieties. practical: Methods of preparing woody stem cuttings, semi-tender cuttings, young cuttings, and root cuttings	and discussion practical: Assigning practical tasks and reports	Q1 .
3	2 Theoretical 3 practical	theoretical: The student learns the most important types of pears, their scientific names, tree specifications, the appropriate environment for them, the most important principles, and methods of planting stransplants in the orchard. practical: The student is familiar with grafting deciduous fruit trees.	theoretical: Pears: scientific name, distribution, economic importance, botanical description, types of pears, climate, soil, propagation, methods for establishing a pear orchard, planting seedlings in the orchard. practical: Vaccination methods, vaccination dates, tools used in vaccination	Theoretical: Live lectures, PowerPoint slides, introductory images, direct dialogues and discussion practical: Assigning practical tasks and reports	Short exams, assignments, discussions
4	2 Theoretical 3 practical	The student is familiar with the nature of fruit bearing and all horticultural service operations for pear orchards. practical: The student learns about the installation process.	theoretical: Pears: pruning and breeding, irrigation, fertilization, flowering and pollination, the nature of fruit bearing, fruit thinning, harvesting, indications of fruit maturity, varieties. practical: Installation, installation methods, mismatch phenomenon, mismatch correction method	Theoretical: Live lectures, PowerPoint slides, introductory images, direct dialogues and discussion practical: Assigning practical tasks and reports	Short exams, assignments, discussions
5	2 Theoretical 3 practical	theoretical: The student knows the scientific name of apricot and learns	theoretical: Apricot: scientific name, distribution, economic	Theoretical: Live lectures, PowerPoint	Short exams, assignments, discussions



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		about the most important	importance, botanical	slides, introductory	
		characteristics of	description,	images,	
		trees, the appropriate	•	direct	
		1	propagation, methods of	dialogues and	
		most important		discussion	
		principles, and	establishing an		
		methods of planting	apricot orchard,	practical:	
		seedlings in the orchard.	planting seedlings in the orchard.	Assigning	
		practical:	practical:	practical tasks and	
		The student learns	Layering, what are	reports	
		about other	its advantages and	reports	
		propagation methods,	disadvantages, the		
		such as layering and	number of layering		
		suchurs	methods, factors		
		Suchars	that affect the		
			success of		
			reproduction by		
			layering? How		
			suchurs		
			reproduces		
6	2 Theoretical	Theoretical	theoretical:	Theoretical:	Short exams,
	3 practical	The student learns	Apricots: pruning	Live	assignments,
		about tree flowering,	and breeding,	lectures,	discussions
		the nature of fruit	irrigation,	PowerPoint	
		bearing, and all	fertilization,	slides,	
		horticultural service	flowering and	introductory	
		operations for apricot	pollination, the	images,	
		orchards.	nature of fruit	direct	
		practical:	bearing, fruit	dialogues	
		The student learns	thinning,	and	
		about the most	harvesting,	discussion	
		important origins of	indications of fruit	practical:	
		deciduous fruits	maturity, varieties. practical:	Assigning practical	
			Types of	tasks and	
			rootstocks,	reports	
			conditions for	Toports	
			good rootstocks,		
			seed roots of		
			apples, vegetative		
			roots of apples,		
			seed and		
			vegetative roots of		
			pears		
7	2 Theoretical	theoretical:	theoretical:	Theoretical:	Short exams,
	3 practical	The student is	Almonds:	Live	assignments,
		familiar with the	scientific name,	lectures,	discussions
		scientific name of	distribution,	PowerPoint	
		almonds, the	economic	slides,	
		characteristics of	importance,	introductory	Marie Comment
		trees, the appropriate	botanical	images,	مامعة الموصل
		environment for	description,	direct	علية الزراعة والمجا
		them, the most	climate, soil,	dialogues	
		important principles,	propagation,		
					السيئلة وهندسه

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8	2 Theoretical	and methods of planting seedlings in the orchard. practical: The student masters the method of planting seedlings. Theoretical	methods for establishing an almond orchard, planting seedlings in the orchard, first monthly exam. practical: Method of planting deciduous fruit seedlings, conditions that must be taken into account when establishing a fruit orchard, planting systems, factors affecting planting distances, planting windbreaks, planting temporary trees. theoretical: Almonds: pruning	and discussion practical: Assigning practical tasks and reports Theoretical:	Short exams,
	3 practical	The student masters the nature of bearing fruits and all horticultural service operations for almond orchards. practical: The student masters the most important methods of trainning and pruning deciduous fruit trees	Almonds: pruning and trainning, irrigation, fertilization, flowering and pollination, the nature of fruit bearing, fruit thinning, harvesting, indications of fruit maturity, varieties. practical: Pruning, goals of pruning, trainning methods, advantages and disadvantages of trinning methods	Live lectures, PowerPoint slides, introductory images, direct dialogues and discussion practical: Assigning practical tasks and reports	assignments, discussions
9	2 Theoretical 3 practical	theoretical: The student is familiar with the types of cherries, their scientific names, tree specifications, the appropriate environment for them, the most important principles, and methods of planting seedlings in the orchard.	theoretical: Cherry: scientific name, distribution, economic importance, botanical description, climate, soil, propagation Ways to create a cherry orchard, planting seedlings in the orchard. practical:	Theoretical: Live lectures, PowerPoint slides, introductory images, direct dialogues and discussion practical: Assigning practical	Short exams, assignments, discussions

		practical: The student is familiar with the methods of pruning fruits and pruning renewal.	pruning, the purpose of fruiting pruning, renewal pruning, methods of renewal pruning	tasks and reports	
10	2 Theoretical 3 practical	Theoretical The student learns about the flowering of trees, the nature of fruit bearing, and all horticultural service operations for orchards Cherry. practical: The student learns about methods of irrigating fruit trees	theoretical: Cherry: pruning and trainning, irrigation, fertilization, flowering and pollination, the nature of fruit bearing, fruit thinning, harvesting, indications of fruit maturity, varieties. practical: The importance of water for fruit trees, methodes to irrigate fruit trees	Theoretical: Live lectures, PowerPoint slides, introductory images, direct dialogues and discussion practical: Assigning practical tasks and reports	Short exams, assignments, discussions
11	2 Theoretical 3 practical	theoretical: The student masters the scientific name of pistachios, the characteristics of trees, the appropriate environment for them, the most important principles, methods of planting seedlings in the orchard, and all tree horticultural service operations. practical: The student masters fertilizing fruit trees.	theoretical: Pistachios: scientific name, distribution, economic importance, botanical description, climate, soil, propagation, methods for establishing a pistachio orchard, planting seedlings in the orchard, irrigation, fertilization Flowering and pollination, the nature of bearing fruits, harvesting fruits, and indications of fruit maturity. practical: Fertilizer, types of fertilizers, methods for diagnosing nutrient deficiency in trees, main rules, benefits of	Theoretical: Live lectures, PowerPoint slides, introductory images, direct dialogues and discussion practical: Assigning practical tasks and reports	Short exams, assignments, discussions

			adding organic fertilizer to sandy soils.		
12	2 Theoretical 3 practical	theoretical: The student learns about the types of walnuts, their scientific names, the characteristics of trees, the appropriate environment for them, the most important principles, and methods of planting seedlings in the orchard. practical: The student learns about the processes of pollination and fertilization	theoretical: Walnut: Scientific name, distribution, economic importance, botanical description, climate, soil, propagation, methods of establishing a walnut orchard, planting seedlings in the orchard. practical: Pollination, types of pollination, good characteristics of the pollinated variety, pollinator distribution systems in the orchard, selfsterility, factors affecting lack of fruiting.	Theoretical: Live lectures, PowerPoint slides, introductory images, direct dialogues and discussion practical: Assigning practical tasks and reports	Short exams, assignments, discussions
13	2 Theoretical 3 practical	The student is familiar with the nature of fruit bearing and all horticultural service operations for walnut orchards. practical: The student is familiar with the knotting of fruits and the thinning of fruits.	theoretical: Walnuts: pruning and breeding, irrigation, fertilization, flowering and pollination, the nature of fruit bearing, fruit bearing, harvesting, indications of fruit maturity, varieties, a second monthly exam. practical: Fruit setting, fruit growth, stages of fruit growth, fruit thinning, fruit thinning methods	Theoretical: Live lectures, PowerPoint slides, introductory images, direct dialogues and discussion practical: Assigning practical tasks and reports	Short exams, assignments, discussions
14	2 Theoretical 3 practical	theoretical: The student masters the scientific name of the orchard and learns the most	theoretical: Pecan: scientific name, distribution, economic importance,	Theoretical: Live lectures, PowerPoint slides,	Short exams, assignments, discussions



		important		anical	introd	•	
		characteristics of trees, their flowering,		cription, nate, soil,	image direct	S,	
		and the appropriate		pagation,	dialog	ues	
		environment for	met	thods of	and		
		them, the most		ablishing a	discus		
		important principles, methods of planting	peca	an orchard, nting seedlings	praction Assign		
		seedlings in the	in	the orchard,	practio	-	
		orchard, and various		gation,	tasks	and	
		service operations. practical:		ilization wering and	report	S	
		The student learns		lination, the			
		about the reasons for		ure of bearing			
		the fall of flowers and fruits and the	fruit fruit				
		ripening of fruits.		ications of fruit			
			mat	curity.			
			-	ctical:			
				ves of falling, ses of falling			
				wers and newly			
				fruits, falling of			
			fruit	ts before vesting,			
				nges in fruits			
			1100	n maturity			
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15	2 Theoretical	Theoretical The student learns	thec	oretical:	Theore	etical:	Short exams,
15	2 Theoretical 3 practical	Theoretical The student learns about the most	theo A so	•	Theore Live lecture		Short exams, assignments, discussions
15		The student learns about the most important types of	theo A so one nurs	oretical: ccientific trip to of the nearby series and a	Live lecture Power	es, Point	assignments,
15		The student learns about the most important types of cultivated fruits,	theo A so one nurs repo	pretical: ccientific trip to of the nearby series and a ort on the most	Live lecture Power slides,	es, Point	assignments,
15		The student learns about the most important types of	theo A so one nurs repo	oretical: ccientific trip to of the nearby series and a	Live lecture Power	es, Point uctory	assignments,
15		The student learns about the most important types of cultivated fruits, methods of propagation, and the various service	theo A so one nurs repo imp hort open	pretical: ccientific trip to of the nearby series and a ort on the most portant ticultural crations taking	Live lecture Power slides, introd image direct	es, Point uctory s,	assignments,
15		The student learns about the most important types of cultivated fruits, methods of propagation, and the various service operations that take	theo A so one nurs repo imp hort oper place	pretical: ccientific trip to e of the nearby series and a cort on the most cortant ticultural crations taking ce in the	Live lecture Power slides, introd image direct dialog	es, Point uctory s,	assignments,
15		The student learns about the most important types of cultivated fruits, methods of propagation, and the various service	theo A so one nurs repo imp hort oper place nurs	pretical: ccientific trip to of the nearby series and a ort on the most portant ticultural crations taking	Live lecture Power slides, introd image direct	es, Point uctory s, ues	assignments,
15		The student learns about the most important types of cultivated fruits, methods of propagation, and the various service operations that take place in the nursery. practical: A scientific trip to	theo A so one nurs repo imp hort oper place nurs prace Wri	pretical: ccientific trip to a of the nearby series and a port on the most portant ticultural rrations taking the in the sery. ctical: iting a report on	Live lecture Power slides, introd image direct dialog and discus practio	es, Point uctory s, ues sion cal:	assignments,
15		The student learns about the most important types of cultivated fruits, methods of propagation, and the various service operations that take place in the nursery. practical: A scientific trip to one of the nearby	theo A so one nurs repo imp hort oper place nurs prace Wri	pretical: ccientific trip to foretical: ccientific trip to foretical: foretic	Live lecture Power slides, introd image direct dialog and discus practic Assign	es, Point uctory s, ues sion cal:	assignments,
15		The student learns about the most important types of cultivated fruits, methods of propagation, and the various service operations that take place in the nursery. practical: A scientific trip to	theo A so one nurs repo imp hort oper place nurs prace Wri	pretical: acientific trip to a of the nearby series and a port on the most portant ticultural arations taking the in the sery. ticial: titing a report on most important pagated plants	Live lecture Power slides, introd image direct dialog and discus practio	es, Point uctory s, ues sion cal:	assignments,
15		The student learns about the most important types of cultivated fruits, methods of propagation, and the various service operations that take place in the nursery. practical: A scientific trip to one of the nearby fruit orchards or	theo A so one nurs repo imp hort oper place nurs prace Wri the prop and oper	pretical: ccientific trip to a of the nearby series and a port on the most portant ticultural rrations taking the in the sery. ticing a report on most important pagated plants horticultural rrations carried	Live lecture Power slides, introd image direct dialog and discus practic Assign practic	es, Point uctory s, ues sion cal: ning cal and	assignments,
	3 practical	The student learns about the most important types of cultivated fruits, methods of propagation, and the various service operations that take place in the nursery. practical: A scientific trip to one of the nearby fruit orchards or nurseries.	theo A so one nurs repo imp hort oper place nurs prace Wri the prop and oper	pretical: acientific trip to a of the nearby series and a port on the most portant ticultural arations taking the sery. ticial: titing a report on most important pagated plants horticultural	Live lecture Power slides, introdimage direct dialog and discus practic Assign practic tasks	es, Point uctory s, ues sion cal: ning cal and	assignments,
11.Co	3 practical	The student learns about the most important types of cultivated fruits, methods of propagation, and the various service operations that take place in the nursery. practical: A scientific trip to one of the nearby fruit orchards or nurseries.	theo A so one nurs repo imp hort oper place nurs prace Wri the prop and oper out	pretical: ccientific trip to contific trip to contific trip to contific trip to contific trip to continual	Live lecture Power slides, introdimage direct dialog and discus practic Assign practic tasks	es, Point uctory s, ues sion cal: ning cal and s	assignments, discussions
11.Co	3 practical	The student learns about the most important types of cultivated fruits, methods of propagation, and the various service operations that take place in the nursery. practical: A scientific trip to one of the nearby fruit orchards or nurseries.	theo A so one nurs repo imp hort oper place nurs prace Wri the prop and oper out	pretical: ccientific trip to a of the nearby series and a port on the most portant ticultural rrations taking the in the sery. ticing a report on most important pagated plants horticultural rrations carried	Live lecture Power slides, introdimage direct dialog and discus practic Assign practic tasks	es, Point uctory s, ues sion cal: ning cal and s	assignments,
11.Co	3 practical	The student learns about the most important types of cultivated fruits, methods of propagation, and the various service operations that take place in the nursery. practical: A scientific trip to one of the nearby fruit orchards or nurseries.	theo A so one nurs repo imp hort oper plac nurs prac Wri the prop and oper out	pretical: ccientific trip to contific trip to contific trip to contific trip to contific trip to continual	Live lecture Power slides, introdimage direct dialog and discus practic Assign practic tasks	es, Point uctory s, ues sion cal: ning cal and s	assignments, discussions
11.Co Evaluation	3 practical urse Evaluation on Methods spoken tion	The student learns about the most important types of cultivated fruits, methods of propagation, and the various service operations that take place in the nursery. practical: A scientific trip to one of the nearby fruit orchards or nurseries. On Evaluation da (week) Theoretical: 2-15 Practical: 2 - 15	theo A so one nurs reporting hort open practive properation and open out	pretical: ccientific trip to for the nearby series and a fort on the most portant ficultural frations taking for in the sery. for tical: fitting a report on most important pagated plants for horticultural frations carried fin the nursery. Degree Theoretical 3 Practical 2	Live lecture Power slides, introdimage direct dialog and discus practic Assign practic tasks	es, Point uctory s, ues sion cal: ning cal and s	assignments, discussions
11.Co Evaluation	3 practical urse Evaluation Methods spoken	The student learns about the most important types of cultivated fruits, methods of propagation, and the various service operations that take place in the nursery. practical: A scientific trip to one of the nearby fruit orchards or nurseries. DI Evaluation da (week) Theoretical: 2-15 Practical: 2-15 Theoretical: 2-15	theo A so one nurs reporting hort open place write propand open out	pretical: ccientific trip to contific trip to contific trip to contific trip to continual control the most cortant ticultural crations taking ce in the sery. ctical: cting a report on most important pagated plants horticultural crations carried in the nursery. Degree Theoretical 3 Practical 2 Theoretical 5	Live lecture Power slides, introdimage direct dialog and discus practic Assign practic tasks	es, Point uctory s, ues sion cal: ning cal and s	assignments, discussions
11.Co Evaluation Daily examina Daily wr	3 practical urse Evaluation on Methods spoken tion itten exams	The student learns about the most important types of cultivated fruits, methods of propagation, and the various service operations that take place in the nursery. practical: A scientific trip to one of the nearby fruit orchards or nurseries. Dn Evaluation da (week) Theoretical: 2-15 Practical: 2-15 Practical: 2-15	theo A so one nurs reporting praction with the proportion out	pretical: ccientific trip to of the nearby series and a port on the most portant ticultural rations taking the in the sery. ctical: iting a report on most important pagated plants horticultural rations carried in the nursery. Degree Theoretical 3 Practical 2 Theoretical 5 Practical 5	Live lecture Power slides, introdimage direct dialog and discus practic Assign practic tasks report	es, Point uctory s, ues sion cal: ning cal and s	assignments, discussions
11.Cor Evaluation Daily examina Daily wr 2 semontal	3 practical urse Evaluation on Methods spoken tion	The student learns about the most important types of cultivated fruits, methods of propagation, and the various service operations that take place in the nursery. practical: A scientific trip to one of the nearby fruit orchards or nurseries. DI Evaluation da (week) Theoretical: 2-15 Practical: 2-15 Theoretical: 2-15	theo A so one nurs reporting practions with the proportion out	pretical: ccientific trip to contific trip to contific trip to contific trip to continual control the most cortant ticultural crations taking ce in the sery. ctical: cting a report on most important pagated plants horticultural crations carried in the nursery. Degree Theoretical 3 Practical 2 Theoretical 5	Live lecture Power slides, introdimage direct dialog and discus practic Assign practic tasks report	es, Point uctory s, ues sion cal: ning cal and s	assignments, discussions

for both practical and theoretical				
Assigning students to	Theoretical: 15	Theoretical 7	10%	
prepare reports on	Practical: 15	Practical 3		
study topics				
Final exam	Theoretical	Theoretical 40	40%	
	Practical	Practical 20	20%	
Total		100	100%	
12.Learning and Tea	aching Resources			
Required textbooks (curr	icular books, if any)	Deciduous fruit production (Part 2), authored		
		by Dr. Youssef Hanna Youssef.		
Main references (sources		Deciduous fruit technology (Part 2), written by		
	8 XL Shari	Prof. Dr. Jassim Mohammed Alwan.		
	Me Joseph () J	2. Scientific and practical foundations for		
	Siller of Colonial Colonial	establishing and servicing orchids		
	Manual Ma	Deciduous leaves, written by Prof. Dr. Jassim		
	الحسنة وهن	Mohammad Alwan.		
Recommended books ar	nd references (scientific	Horticulture Scince, American Soc.Hort. Sci.		
journals, reports)	Van te			
Electronic References, W	Vebsites	FAO reports, bulletins and studies		



Theoretical lecturer: ;Prof. Dr. Jassim Mohammed Alwan



Practical lecturer Yusra Mohammed Saleh

Chairman of the Scientific Committee

Head of the department

Prof. Dr. Jassim Mohammed Alwan

Prof. Dr. Asmaa Muhammad Adel